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January 5, 1995

Mr. William S. Caton
Acting Secretary
Federal Communications Commission
Office of the Secretary
1919 M Street, Room 222
Washington, D.C. 20554

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RE: Comments on Notice of Proposed Rule Making in the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1 Emergency Calling Systems, CC Docket No. 94- 102, RM-8143

Dear Commission Secretary,

As principal of C.J. Driscoll & Associates, I directed the *Survey of Location Technologies to Support Mobile 9-1-1*, referred to in Paragraph 47 of the above referenced proceeding. I wish to submit the following comments regarding the proposed rules as set forth in the Notice of Proposed Rule Making (NPRM):

1. I agree with a phased approach to the requirement to provide Automatic Location Information (ALI) for wireless 9-1-1 callers, as proposed in paragraph 48. Identification of cell site and sector (for cell sites using sectored antennas) is a reasonable first step.

2. Paragraph 50 proposes a second stage, to be implemented within three years, which requires that ALI information provided to the PSAP include an estimate of the approximate location and distance of the mobile unit from the receiving base station or cell site. The proposed rules for the second stage do not specify the location accuracy required. Without a specific accuracy requirement, simply identifying the cell site of the caller and providing any estimate of the caller's position within the cell's coverage area would be compliant. It does not appear that the location information would have to be any more precise than the cell site and sector information proposed for phase one.

   I suggest that a specific accuracy requirement be included in the second stage. The *Survey of Location Technologies to Support Mobile 9-1-1* identifies a number of location systems which are capable, today, of computing the caller's location with an accuracy of 300-500 ft. or better. I suggest a second stage accuracy requirement of 500 ft. or better for benign environments and 1,000 ft. for dense urban environments (high multipath) and indoors.

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The principal limitations to immediate implementation of wireless 9-1-1 caller location systems are funding for the systems (i.e. network-based systems) and the need to integrate these systems into wireless phones, network infrastructure and PSAPs. Public safety organizations and suppliers of network infrastructure and wireless phones should provide information on the amount of time required for integration. However, it would appear that three years from enactment of the rules would be sufficient.

3. Paragraph 51 proposes that caller location accuracy of 125 meters be required within five years. As noted above, a number of network-based and mobile-based systems are currently available which meet or exceed the 125 meter accuracy requirement. If Public Safety organizations indicate that a higher level of accuracy is needed in order to identify the building from which a call was placed and the caller's location within the building, the rules should motivate location system suppliers to enhance their current systems in an effort to meet these requirements. The rules should favor selection of location system suppliers capable of addressing the need for a higher level of accuracy, but should not be so ambitious as to discourage qualified suppliers from devoting resources to system development or driving up system costs to a prohibitive level.

   The proposed vertical accuracy requirement of 125 meters will have limited value in identifying the floor from which a call was placed. I suggest that the Commission require that location systems for wireless 9-1-1 provide the capability of determining the floor from which the call was placed, leaving open the method by which this is accomplished. Some suppliers may be able to enhance their systems to provide for vertical as well as horizontal position. Alternatively, in-building micro-cells could be used, where available, or emergency response personnel could use portable direction-finding devices.

In general, it is clear that the speed with which wireless 9-1-1 caller location systems are implemented will be determined, in large measure, by the Commission's actions. If the Commission allows five years or more for implementation, it will take that long. System accuracy specifications will also be heavily influenced by the rules enacted by the Commission.

In addition to the location system suppliers discussed in the *Survey of Location Systems to Support Mobile 9-1-1*, several other major corporations have indicated to me that they are considering developing caller location systems to support wireless 9-1-1. It is clear that their decisions regarding whether or not to develop these systems and the level of resources applied will be heavily influenced by the performance requirements and implementation schedule specified in the rules.

I appreciate the opportunity to submit these comments for your consideration.

Sincerely,

Clement J. Driscoll